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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,136	10/14/2003	Joseph B. Rowlands	BP 3247	4505

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EXAMINER	
NGUYEN, TANH Q	

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/685,136	ROWLANDS, JOSEPH B.	
	Examiner	Art Unit	
	Tanh Q. Nguyen	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The amended abstract of the disclosure is objected to because it is not provided on a separate sheet. Correction is required. See MPEP § 608.01(b).

Claim Objections

2. Claims 5, 14 are objected to because of the following informalities:

first data system" in line 2 of claim 5 should be replaced with "first data processing system"

first data system" in line 2 of claim 14 should be replaced with "first data processing system".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 5-8, 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites "wherein data written by the bridge during an uncacheable remote access..." in lines 1-2. It is not clear whether the data written by the bridge is the same data written by said bridge recited in lines 1-2 of claim 4, and it is not clear whether an uncacheable remote access is the same as the uncacheable remote access

recited in line 2 of claim 4.

Claim 14 recites "wherein data written by the bridge during an uncacheable remote access..." in lines 1-2. It is not clear whether the data written by the bridge is the same data written by said bridge recited in lines 1-2 of claim 13, and it is not clear whether an uncacheable remote access is the same as the uncacheable remote access recited in line 2 of claim 13.

The rejections that follow are based on the examiner's best interpretation of the claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-8, 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (US 6,470,429) in view of Anand (US 6,134,641).

7. As per claim 1, Jones teaches a system for managing data in multiple data processing devices using common data paths [90, FIG. 1], comprising:

a first data processing system [100-106, FIG. 1] comprising a memory [102, 106 - FIG. 1], wherein said memory comprises a cacheable coherent memory space [col. 1, lines 25-27]; and

a second data processing system [110, FIGs. 1-2] communicatively coupled to

said first data processing system, said second data processing system comprising at least one bridge [210, FIG. 2], wherein said bridge is operable to perform an uncacheable remote access to uncacheable memory space of said first data processing system.

Jones further teaches the bridge being operable to perform a cacheable remote access to the cacheable coherent memory space of the first data processing system by bus snooping [col. 6, lines 56-59], and bus snooping impacting computer system performance [col. 2, lines 16-17].

Jones does not teach the bridge performing an uncacheable remote access to the cacheable coherent memory space of the first data processing system.

Anand teaches using uncacheable request to access a cache coherent memory space [col. 5, lines 40-45; col. 9, lines 9-12] in order to avoid bus snooping [col. 9, lines 6-7].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform an uncacheable remote access to a cacheable coherent memory space, as is taught by Anand, in order for Jones' system to maintain coherency while avoiding bus snooping which results in improved performance.

8. As per claims 2-8, Jones/Anand above teaches access to a cacheable coherent memory space, hence a data read from and a data write to a cacheable coherent memory space;

Anand teaches the uncacheable access participating in cacheable coherent memory protocol [240, FIG. 2]; conversion of uncacheable address space into

cacheable address space to allow an agent to access the cacheable coherent address space of a data processing system [240, FIG. 2];

Jones/Anand above teaches the bridge performing an uncacheable request, hence a producer and the agent receiving data (in a data read), hence a consumer, and therefore a producer-consumer protocol;

Jones/Anand above teaches access to the cacheable coherent memory space, hence data written by the bridge comprising a payload; Anand further teaches a flag for indicating an uncacheable request to a cacheable coherent memory space [col. 6, lines 28-31];

Jones/Anand above teaches access to the cacheable coherent memory space, hence data being written in accordance with a set of predetermined ordering rules - to maintain coherency.

9. As per claims 10-17, the claims generally correspond to claims 1-8, and are rejected on the same bases.

Response to Arguments

10. Applicant's arguments filed June 27, 2006 have been fully considered but they are not persuasive.

11. Applicant argued that the examiner has engaged in an improper hindsight reconstruction of applicant's invention. Applicant further noted that the actual feature recited in Anand is the "creation of a non-cacheable address block in normally cacheable system memory space" that is accomplished by "setting up a virtual device",

and cited sections of Anand regarding a four stage process, and the non-cacheable address block being implemented by tricking the operating system at boot-up.

In response to applicant's argument that the examiner has engaged in an improper hindsight reconstruction of applicant's invention, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

It is not clear what applicant argued with the discussion of Anand's teachings. It appears that applicant alleged that the claims define a patentable invention from Jones/Anand. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

12. Applicant also argued that the examiner has made broad conclusionary statements that one of ordinary skill in the art would "perform an uncacheable remote access to a cache coherent memory space, as is taught by Anand, in order to maintain coherency in Jones' system while avoiding bus snooping which results in improved performance".

The argument is not persuasive because Anand teaches using uncacheable

request to access a cache coherent memory space [col. 5, lines 40-45; col. 9, lines 9-12] in order to avoid bus snooping [col. 9, lines 6-7], which results in improved performance [since bus snooping introduces significant overhead [col. 2, lines 24-27], avoidance of bus snooping would result in improved performance]. Since the examiner has provided the motivation to modify to Jones's system, the motivation being supported by Anand's teachings (and not just broad conclusionary statements), the combination suggested by the examiner is proper.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanh Q. Nguyen whose telephone number is 571-272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 21, 2006

TQN
August 21, 2006